Increasing Use of Photovoltaic Technologies in the Midwest: Strategic Plan

INTRODUCTION:
In 2000, the Iowa Department of Natural Resources (DNR) formed an advisory committee of 21 members from the architectural, construction, engineering, academic, photovoltaic (PV) and real estate fields to create a strategic plan to increase the use of PV technologies in the Midwest. The DNR commissioned a survey to determine barriers to the use of PV technologies in the Midwest. The Advisory Committee used the results of the survey to create the following strategic plan.

BACKGROUND:
Core findings of the survey included:

- The Midwest does not have a mature PV infrastructure to support widespread use of the technology. Currently, basic information about costs, brands and installation is not available in a central clearinghouse. Additionally, the number of manufacturers, dealers, designers and installers in the Midwest is limited.
- Building professionals, architects and engineers said they would be more motivated to promote and install PV technologies if consumer demand was higher. Most professionals believe the public has no knowledge about PV systems.
- Professionals are skeptical about PV technology and its cost effectiveness, efficiency, and reliability. Respondents who said they are familiar with PV tended to have limited knowledge of the current ranges of applications and systems available.
- Related to the need for proving the technology is a false perception that PV is not a good option in the Midwest because of lack of sunshine. These issues must be addressed before professionals will specify PV in their construction.

VISION:
PV technologies will be an accepted technology in new and existing construction in the Midwest.

OBJECTIVES:
1) *Increase awareness and acceptance of PV among consumers by making at least 20,000 contacts promoting PV to targeted audiences across the Midwest.*
2) *Improve and promote the Midwest photovoltaic infrastructure consisting of manufacturers, designers, installers and assistance programs.*
3) *Have 100 new installations in the Midwest by 2012.*

STRATEGIES AND TACTICS:

Strategy One: Build and promote the PV industry infrastructure in the Midwest.

Tactics: Years 1 - 2

- Create a PV Yellow Pages. This guide will include information on PV manufacturers, designers, installers, educational resources, financial incentives, interconnection and net metering in the Midwest. The document will be searchable by state and include a listing of international PV manufacturers. The Yellow Pages will be available in hard copy and on the Internet, and will be distributed to targeted audiences via mail, events, web distribution and other methods, as appropriate. A comprehensive PV resource will promote the PV infrastructure and facilitate the use of PV technologies.

Tactics: Years 3 - 5

- Update and continue to disseminate the PV Yellow Pages.
- Work with the Interstate Renewable Energy Council to promote photovoltaic installer certification. Encourage states to adopt IREC's certification guidelines and hold workshops for electricians, contractors and other interested parties to become certified installers.
- Interest photovoltaic manufacturers in building manufacturing facilities in the Midwest by working with the various Departments of Economic Development in specific states to encourage and entice Midwest siting of facilities.

Strategy Two: Target specific audiences – especially environmentalists and rural landowners/farmers, who have the greatest potential for adopting PV technology – so that greater consumer demand can help move the market.

Tactics: Years 1 - 2

- Obtain mailing lists for two target audiences, environmentalists and rural landowners/farmers in the Midwest, to implement a direct-mail campaign consisting of two to four mailings. Customize list to match resource and time-frame capabilities. Include mail-backs to determine effectiveness and reach of campaign.
- Develop two to four case studies of current PV applications in the Midwest. Distribute as part of direct-mail campaign, to trade publications as articles, on the Internet, and in other publications.
- Create a Web site with information on PV in the Midwest. Include the web address in appropriate publications. Encourage PV stakeholders to promote the site.
- Adapt the National Renewable Energy Laboratory's PV consumer guide with Midwest-specific information. Make the Guide available on the Internet and distribute to target audiences, to other state energy offices, and at various venues.

Tactics: Years 3 - 5

- Develop at least four feature articles and press releases per state for consumer publications read by target audiences, such as the Farm Bureau Spokesman, Iowa Farmer Today, the Nature Conservancy, and other publications across the Midwest. Partner with other state energy offices to write and distribute for different states.
- Research the possibility of partnering with real estate/home television shows to feature PV technologies as a viable option for new and existing construction.
- Advertise the availability of DOE's Schools Going Solar informational resource through school and school board associations. Serve as an informational resource for schools interested in installing PV systems. Create a resource of previously developed solar curricula materials to be distributed to teachers and schools requesting them.
- Create a demonstration unit to be displayed at trade events, including Parade of Homes. Creating a unit that can be inspected and actually powers something, along with informational materials, will address the concerns that still exist about PV's efficiency and applicability in the Midwest.
- Research creating a testimonial video. Creating a testimonial video of new or existing PV application owners/users will also address concerns regarding efficiency and applicability in the Midwest.
- Organize public tours. Work with regional renewable energy groups to organize and publicize tours of solar applications. Showing where PV is already working will address the concerns regarding PV's efficiency and applicability in the Midwest.

Strategy Three: Increase the knowledge and acceptance of PV technology among building professionals, architects and engineers.

Tactics: Years 1 - 2

- Adapt two to four case studies to provide technical information for building professionals. Include applications such as residential, commercial, pond aeration, water pumping, and electric fence charging. Offer detailed "how-to" information for professionals new to PV. Distribute via trade publications, workshops, targeted mailings and other venues, as appropriate.
- Sponsor two CEU workshops in the Midwest that offer technical PV information for architects and engineers. Technical information documents and seminars on PV that provide the level of information required by building professionals are still not widely available. Professionals will be more likely to attend courses that offer CEUs for their continuing education requirements.
- Monitor a current PV site to prove performance. Implement an independent verification process of a current PV installation to demonstrate amount of energy produced, reliability of the system and viability of the technology. Include this information in the case studies and organize public tours of the site.

Tactics: Years 3 - 5

- Hold additional CEU workshops. Follow-up with workshop attendees through targeted mailings, meetings and other means to continue education and promotion of PV technologies to this audience.
- Make safety presentations to electrical contractors, large homebuilders, construction firms, etc on interconnected PV systems, with most of the lecture providing basic information on PV systems. The selected audiences are required to have regular safety lectures to reduce insurance costs.
- Exhibit at trade shows, as appropriate, and target trade publications, such as the AIArchitect, Engineering Times, Realtor Magazine, etc, for inclusion of two to four articles per year on PV applications. Many professionals get their information from trade magazines. Developing and disseminating articles on PV in the Midwest may intrigue some who were not formerly interested and educates all.
- Partner with utilities to determine their commitment to PV. Evaluate the possibility of a pilot project for including PV technologies in a new or existing building. Utilities will be an important partner in many PV installations, due to net metering issues. It will be important to determine the utilities' informational needs and disseminate information to meet those needs. It will also be important to determine utilities' requirements in interconnecting a PV system so that information can also be distributed to project participants.
- Make presentations at realtor association meetings. Most realtors are not familiar with PV, and therefore do not know how to market the special perks of a home that has PV installed and/or cannot advise their clients to look for homes that have PV or are PV capable. Educating this population will provide an important link in the PV sales chain.

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